AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 10/066,766

PATENT APPLICATION
Atty. Docket No.: Q68400

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original) A base station transmission control method applied to a cellular system wherein;

a mobile station sets up a connection to one or more base stations, measures the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designates one or more of the base stations with which a connection has been set up (hereinafter termed "connected base stations") as a transmitting base station, and sends notification of this to the connected base stations;

when a connected base station has been designated as a transmitting base station, it transmits dedicated physical control channel signals and dedicated physical data channel signals to the aforementioned mobile station, measures the uplink reception quality, and transmits, multiplexed in the dedicated physical control channel signal, a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality; and

the mobile station receives one or more dedicated physical control channel signals transmitted from connected base stations and controls its own transmission power in accordance therewith;

which is characterized in that;

when a connected base station has been designated as a non-transmitting base station, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the uplink reception quality.

2. (Original) The base station transmission control method claimed in claim 1, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and

the non-transmitting base station transmits a dedicated physical control channel signal if the uplink reception quality is higher than a prescribed target quality, and otherwise halts transmission of the dedicated physical control channel signal.

3. (Original) A base station transmission control method applied to a cellular system wherein;

a mobile station sets up a connection to one or more base stations, measures the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designates one or more of the connected base stations as a transmitting base station, and sends notification of this to the connected base stations;

when a connected base station has been designated as a transmitting base station, it transmits dedicated physical control channel signals and dedicated physical data channel signals to the aforementioned mobile station, measures the uplink reception quality, and transmits,

multiplexed in the dedicated physical control channel signal, a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality; and

the mobile station receives one or more dedicated physical control channel signals transmitted from connected base stations and controls its own transmission power in accordance therewith;

which is characterized in that;

when a connected base station has been designated as a non-transmitting base station, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the contents of the transmission power control signal.

4. (Original) The base station transmission control method claimed in claim 3, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and

the non-transmitting base station transmits a dedicated physical control channel signal if the contents of the transmission power control signal instruct a decrease in the transmission power of the mobile station, and otherwise halts transmission of the dedicated physical control channel signal.

5. (Original) A base station transmission control method applied to a cellular system wherein;

a mobile station sets up a connection to one or more base stations, measures the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designates one or more of the connected base stations as a transmitting base station, and sends notification of this to the connected base stations;

a connected base station measures the uplink reception quality and transmits a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality; and

the mobile station receives one or more transmission power control signals transmitted from connected base stations and controls its own transmission power in accordance therewith;

which is characterized in that;

when a connected base station has been designated as a non-transmitting base station, it decides whether or not to transmit, in accordance with the estimated value of the rate of movement of the mobile station.

6. (Original) The base station transmission control method of claim 5, wherein;

a transmitting base station transmits dedicated physical control channel signals and dedicated physical data channel signals to the mobile station; and

a non-transmitting base station halts transmission of the dedicated physical control channel signal and the dedicated physical data channel signal if the estimated velocity of the mobile station is higher than a prescribed threshold, whereas if the estimated velocity is lower

than the prescribed threshold, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the quality of the uplink.

7. (Original) A base station transmission control method claimed in claim 6, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and wherein;

when the estimated velocity of the mobile station is lower than the prescribed threshold, the non-transmitting base station transmits the dedicated physical control channel signal if the uplink reception quality is higher than a prescribed target quality, and otherwise halts transmission of the dedicated physical control channel signal.

8. (Original) The base station transmission control method claimed in claim 5, wherein;

the transmitting base station transmits dedicated physical control channel signals and dedicated physical data channel signals to the mobile station; and

the non-transmitting base station halts transmission of the dedicated physical control channel signal and the dedicated physical data channel signal if the estimated velocity of the mobile station is higher than a prescribed threshold, whereas if the estimated velocity is lower than the prescribed threshold, it halts transmission of the dedicated physical data channel signal

and decides whether or not to transmit the dedicated physical control channel signal in accordance with the contents of the transmission power control signal.

9. (Original) The base station transmission control method claimed in claim 8, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and wherein;

when the estimated velocity of the mobile station is lower than the prescribed threshold, a non-transmitting base station transmits the dedicated physical control channel signal if the contents of the transmission power control signal instruct a decrease in the transmission power of the mobile station, and otherwise halts transmission of the dedicated physical control channel signal.

10. (Original) A cellular system which comprises mobile stations and base stations wherein;

a mobile stations sets up a connection to one or more base stations, measures the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designates one or more of the connected base stations as a transmitting base station, and sends notification of this to the connected base stations;

when a connected base station has been designated as a transmitting base station, it transmits dedicated physical control channel signals and dedicated physical data channel signals to the aforementioned mobile station, measures the uplink reception quality, and transmits,

multiplexed in the dedicated physical control channel signal, a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality; and

the mobile station receives one or more dedicated physical control channel signals transmitted from connected base stations and controls its own transmission power in accordance therewith;

which is characterized in that;

when the connected base station has been designated as a non-transmitting base station, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the uplink reception quality.

11. (Original) The cellular system claimed in claim 10, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and

a non-transmitting base station transmits a dedicated physical control channel signal when the uplink reception quality is higher than a prescribed target quality, and otherwise halts transmission of the dedicated physical control channel signal.

12. (Original) A cellular system which comprises mobile stations and base stations wherein;

a mobile station sets up a connection to one or more base stations, measures the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designates one or more of the connected base stations as a transmitting base station, and sends notification of this to the connected base stations;

when a connected base station has been designated as a transmitting base station, it transmits dedicated physical control channel signals and dedicated physical data channel signals to the aforementioned mobile station, measures the uplink reception quality, and transmits, multiplexed in the dedicated physical control channel signal, a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality; and

the mobile station receives one or more dedicated physical control channel signals transmitted from connected base stations and controls its own transmission power in accordance therewith;

which is characterized in that;

when a connected base station has been designated as a non-transmitting base station, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the contents of the transmission power control signal.

13. (Original) The cellular system claimed in claim 12, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and

the non-transmitting base station transmits a dedicated physical control channel signal when the contents of the transmission power control signal instruct a decrease in the transmission power of the mobile station, and otherwise halts transmission of the dedicated physical control channel signal.

14. (Original) A cellular system which comprises mobile stations and base stations wherein;

a mobile station sets up a connection to one or more base stations, measures the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designates one or more of the connected base stations as a transmitting base station, and sends notification of this to the connected base stations;

a connected base station measures the uplink reception quality and transmits a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality; and

the mobile station receives one or more transmission power control signals transmitted from connected base stations and controls its own transmission power in accordance therewith;

which is characterized in that;

when a connected base station has been designated as a non-transmitting base station, it decides whether or not to transmit, in accordance with the estimated value of the rate of movement of the mobile station.

15. (Original) The cellular system claimed in claim 14, wherein;

the transmitting base station transmits dedicated physical control channel signals and dedicated physical data channel signals to the mobile station; and

the non-transmitting base station halts transmission of the dedicated physical control channel signal and the dedicated physical data channel signal if the estimated velocity of the mobile station is higher than a prescribed threshold, whereas if the estimated velocity is lower than the prescribed threshold, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the quality of the uplink.

16. (Original) The cellular system claimed in claim 15, wherein;

the mobile station decreases its transmission if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and

when the estimated velocity of the mobile station is lower than the prescribed threshold, the non-transmitting base station transmits the dedicated physical control channel signal if the uplink reception quality is higher than a prescribed target quality, and otherwise halts transmission of the dedicated physical control channel signal.

17. (Original) The cellular system claimed in claim 14, wherein;

the transmitting base station transmits dedicated physical control channel signals and dedicated physical data channel signals to the mobile station; and

the non-transmitting base station halts transmission of the dedicated physical control channel signal and the dedicated physical data channel signal if the estimated velocity of the mobile station is higher than a prescribed threshold, whereas if the estimated velocity is lower than the prescribed threshold, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the contents of the transmission power control signal.

18. (Original) The cellular system claimed in claim 17, wherein;

the mobile station decreases its transmission power if at least one of the one or more transmission power control signals that have been received is a signal instructing a decrease in transmission power; and

when the estimated velocity of the mobile station is lower than the prescribed threshold, the non-transmitting base station transmits the dedicated physical control channel signal if the contents of the transmission power control signal instruct a decrease in the transmission power of the mobile station, and otherwise halts transmission of the dedicated physical control channel signal.

19. (Original) A base station which transmits a pilot signal at a prescribed power; receives information relating to transmitting base stations from a mobile station which has set up a connection to one or more base stations, measured the reception quality of the pilot signal

transmitted therefrom, and in accordance with the results of this measurement, designated one or more of the connected base stations as a transmitting base station, and sent notification of this to the connected base stations; and when the base station in question has been designated as a transmitting base station, transmits dedicated physical control channel signals and dedicated physical data channel signals to the aforementioned mobile station, measures the uplink reception quality, and transmits, multiplexed in the dedicated physical control channel signal, a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality;

which is characterized in that;

when it is designated as a non-transmitting base station, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the uplink reception quality.

20. (Original) The base station claimed in claim 19, wherein when it is a non-transmitting base station, it transmits a dedicated physical control channel signal if the uplink reception quality is higher than a prescribed target quality, and otherwise halts transmission of the dedicated physical control channel signal.

21. (Original) A base station which transmits a pilot signal at a prescribed power; receives information relating to transmitting base stations from a mobile station which has set up a connection to one or more base stations, measured the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designated one or more of the connected base stations as a transmitting base station, and sent notification of this to

the connected base stations; and when the base station in question has been designated as a transmitting base station, transmits dedicated physical control channel signals and dedicated physical data channel signals to the aforementioned mobile station, measures the uplink reception quality, and transmits, multiplexed in the dedicated physical control channel signal, a transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality;

which is characterized in that;

when it is designated as a non-transmitting base station, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the contents of the transmission power control signal.

22. (Original) The base station claimed in claim 21, wherein when it is a non-transmitting base station, it transmits a dedicated physical control channel signal if the contents of the transmission power control signal instruct a decrease in the transmission power of the mobile station, and otherwise halts transmission of the dedicated physical control channel signal.

23. (Original) A base station which transmits a pilot signal at a prescribed power; receives information relating to transmitting base stations from a mobile station which has set up a connection to one or more base stations, measured the reception quality of the pilot signal transmitted therefrom, and in accordance with the results of this measurement, designated one or more of the connected base stations as a transmitting base station, and sent notification of this to the connected base stations; and measures the uplink reception quality and transmits a

transmission power control signal serving to control the transmission power of the mobile station so that the aforementioned reception quality approaches a prescribed target quality;

which is characterized in that;

when it is designated as a non-transmitting base station, it decides whether or not to transmit, in accordance with the estimated value of the rate of movement of the mobile station.

24. (Original) The base station claimed in claim 23, wherein;

when it is a transmitting base station, it transmits dedicated physical control channel signals and dedicated physical data channel signals to the mobile station; and

when it is a non-transmitting base station, it halts transmission of the dedicated physical control channel signal and the dedicated physical data channel signal if the estimated velocity of the mobile station is higher than a prescribed threshold, whereas if the estimated velocity is lower than the prescribed threshold, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the quality of the uplink.

25. (Original) The base station claimed in claim 24, wherein;

when it is a non-transmitting base station and the estimated velocity of the mobile station is lower than the prescribed threshold, it transmits the dedicated physical control channel signal if the uplink reception quality is higher than a prescribed target quality, and otherwise halts transmission of the dedicated physical control channel signal.

26. (Original) The base station claimed in claim 23, wherein;

when it is a transmitting base station, it transmits dedicated physical control channel signals and dedicated physical data channel signals to the mobile station; and

when it is a non-transmitting base station, it halts transmission of the dedicated physical control channel signal and the dedicated physical data channel signal if the estimated velocity of the mobile station is higher than a prescribed threshold, whereas if the estimated velocity is lower than the prescribed threshold, it halts transmission of the dedicated physical data channel signal and decides whether or not to transmit the dedicated physical control channel signal in accordance with the contents of the transmission power control signal.

27. (Original) The base station claimed in claim 26, wherein;

when it is a non-transmitting base station and the estimated velocity of the mobile station is lower than the prescribed threshold, it transmits the dedicated physical control channel signal if the contents of the transmission power control signal instruct a decrease in the transmission power of the mobile station, and otherwise halts transmission of the dedicated physical control channel signal.

28. (Original) A communication method wherein mobile stations and base stations perform soft handoff;

which is characterized in that;

a base station that is transmitting only a control signal transmits the control signal to a mobile station only if the signal quality from that mobile station is higher than a target quality.

29. (Original) The communication method claimed in claim 28, wherein the mobile station transmits information relating to its own velocity and the base station halts transmission of the control signal if said velocity exceeds a prescribed value.

30. (Original) The communication method claimed in claim 28, wherein the base station estimates the velocity of the mobile station on the basis of the fading of a signal from the mobile station, and halts transmission of the control signal if said velocity exceeds a prescribed value.

31. (Original) A communication system wherein mobile stations and base stations perform soft handoff;

which is characterized in that;

a base station that is transmitting only a control signal transmits the control signal to a mobile station only if the signal quality from that mobile station is higher than a target quality.

32. (Original) The communication system claimed in claim 31, wherein the mobile station transmits information relating to its own velocity and the base station halts transmission of the control signal if said velocity exceeds a prescribed value.

33. (Original) The communication system claimed in claim 31, wherein the base station estimates the velocity of the mobile station on the basis of the fading of a signal from the mobile station, and halts transmission of the control signal if said velocity exceeds a prescribed value.

34. (Original) A base station capable of performing soft handoff with a mobile station, wherein;

if it is transmitting only a control signal, it transmits the control signal to a mobile station only if the signal quality from that mobile station is higher than a target quality.

35. (Currently amended) The ~~base station claimed~~ mobile station in claim 34, wherein it transmits information relating to its own velocity and the base station halts transmission of the control signal if said velocity exceeds a prescribed value.

36. (Original) The base station claimed in claim 34, wherein it estimates the velocity of the mobile station on the basis of the fading of a signal from the mobile station, and halts transmission of the control signal if said velocity exceeds a prescribed value.